



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,998	12/12/2000	Terrill L. Woolsey	00-478	3378
24319	7590	08/23/2005		
LSI LOGIC CORPORATION 1621 BARBER LANE MS: D-106 MILPITAS, CA 95035			EXAMINER LEVI, DAMEON E	
			ART UNIT 2841	PAPER NUMBER

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

09/734,998

Applicant(s)

WOOLSEY ET AL.

Examiner

Dameon E. Levi

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06/24/2005 Amendment.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8,10-17,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8,10-17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action, or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| <p>1) <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br/>Paper No(s)/Mail Date _____</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/>Paper No(s)/Mail Date. _____</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: _____</p> |
|--|--|

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-3, 6-8,10-12,15-17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aug et al US Patent 5023754 in view of Jacques US Patent 6483023.**

**Regarding claim 1,** Aug et al discloses an assembly comprising:

a midplane circuit board(for example, see elements 22, Figs 2-4);

a midplane chassis shield (for example, see elements 36, Figs 2-4);disposed adjacent to said midplane circuit board;

an interface module(for example, see elements 8, Fig 1, elements 56, Figs 2-4); suitable for being coupled to said midplane circuit board through said midplane chassis shield;

wherein said midplane circuit board, midplane chassis shield and interface module

cooperate for providing a low impedance tunnel for channeling high frequency signals to ground(for example, see Figs 2-4, see Abstract, see column 1, line 65 – column 2, line 35);.

Aug et al does not expressly disclose the interface module including an EMC seal.

Art Unit: 2841

Jacques discloses an assembly wherein an interface module includes an EMC seal(for example, see elements 102, 104, Figs 1a-7b)

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included an EMC seal as taught by Jacques in the assembly as taught by Aug et al for the purpose of providing a continuous metal connection between the module and the housing thereby shielding the electronic components from EMI(see Jacques, column 1, lines 35-55).

**Regarding claim 2**, Aug et al discloses wherein said interface module comprises an interface module container and an interface circuit board, said interface circuit board being substantially contained within said interface module container(for example, see elements 8, Fig 1, elements 56, Figs 2-4).

**Regarding claim 3**, Aug et al discloses further comprising an interface connector suitable for coupling said interface circuit board to said midplane circuit board said interface connector including a first connector half(for example, see elements 57, Figs 2-4) coupled to said interface circuit board and a second connector half coupled to said midplane circuit board(for example, see elements 28, Figs 2-4).

**Regarding claim 6**, Aug et al discloses wherein said connector further comprises at least one logic pin and at least one ground shield pin(for example, see elements 28, Figs 2-4).

**Regarding claim 7**, Aug et al discloses the instant claimed invention except wherein said interface module container further comprises at least one suspension ground spring suitable for substantially holding said interface module in said electronic device.

Art Unit: 2841

Jacques discloses an apparatus wherein an interface module container further comprises at least one suspension ground spring suitable for substantially holding said interface module in said electronic device (for example, see 102, 108, Figs 1a).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the suspension ground spring as taught by Jacques in the assembly as taught by Aug et al as such ground springs are used for resilient contact with the chassis of the assembly for EMI shielding (see Jacques, Abstract)

**Regarding claim 8**, Aug et al discloses wherein said midplane chassis shield comprises at least one guide for securing said interface module to said midplane chassis (for example, see elements 38, Figs 2-4).

**Regarding claim 10**, Aug et al discloses a device comprising:

a housing (for example, see elements 1, Fig 1, elements 20, Fig 2-4);

a midplane circuit board (for example, see elements 22, Figs 2-4);

a midplane chassis shield (for example, see elements 36, Figs 2-4) disposed in said housing adjacent to said midplane circuit board;

an interface module (for example, see elements 8, Fig 1, elements 56, Figs 2-4);

suitable for being coupled to said midplane circuit board through said midplane chassis shield;

wherein said midplane circuit board, midplane chassis shield and interface module cooperate for providing a low impedance tunnel for channeling high frequency signals to

Art Unit: 2841

ground(for example, see Figs 2-4, see Abstract, see column 1, line 65 – column 2, line 35);.

Aug et al does not expressly disclose the interface module including an EMC shield.

Jacques discloses an assembly wherein an interface module includes an EMC shield (for example, see elements 102, 104, Figs 1a-7b)

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included an EMC shield as taught by Jacques in the assembly as taught by Aug et al for the purpose of providing a continuous metal connection between the module and the housing thereby shielding the electronic components from EMI(see Jacques, column 1, lines 35-55).

**Regarding claim 11**, Aug et al discloses wherein said interface module comprises an interface module container and an interface circuit board, said interface circuit board being substantially contained within said interface module container(for example, see elements 8, Fig 1, elements 56, Figs 2-4).

**Regarding claim 12**, Aug et al discloses further comprising an interface connector suitable for coupling said interface circuit board to said midplane circuit board said interface connector including a first connector half (for example, see elements 57, Figs 2-4)coupled to said interface circuit board and a second connector half(for example, see elements 28, Figs 2-4) coupled to said midplane circuit board.

**Regarding claim 15**, Aug et al discloses wherein said connector further comprises at least one logic pin and at least one ground shield pin(for example, see elements 28, Figs 2-4).

Art Unit: 2841

**Regarding claim 16**, Aug et al discloses the instant claimed invention except wherein said interface module container further comprises at least one suspension ground spring suitable for substantially holding said interface module in said electronic device.

Jacques discloses an apparatus wherein an interface module container further comprises at least one suspension ground spring suitable for substantially holding said interface module in said electronic device (for example, see 102, 108, Figs 1a).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the suspension ground spring as taught by Jacques in the assembly as taught by Aug et al as such ground springs are used for resilient contact with the chassis of the assembly for EMI shielding(see Jacques, Abstract)

**Regarding claim 17**, Aug et al discloses wherein said midplane chassis shield comprises at least one guide for securing said interface module to said midplane chassis(for example, see elements 38, Figs 2-4).

**Regarding claim 19**, Aug et al discloses a system comprising:

a housing(for example, se elements 1, Fig 1, elements 20, Fig 2-4);

a midplane circuit board (for example, see elements 22, Figs 2-4)disposed in said housing,

an interface module (for example, see elements 8, Fig 1, elements 56, Figs 2-4);

suitable for being coupled to said midplane circuit board;

means for providing a low impedance tunnel for channeling high frequency signals

Art Unit: 2841

in said midplane circuit board and interface module to ground(for example, see Figs 2-4, see Abstract, see column 1, line 65 – column 2, line 35);.

**Regarding claim 20** Aug et al discloses further comprising means for removably mounting said interface module in said housing wherein said interface module is coupled to said midplane circuit board(for example, see elements 57, 28, 38, Figs 2-4).

**Claims 4,5,13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aug et al US Patent 5023754 in view of Jacques US Patent 6483023 and further in view of Peterson US Patent 5975953.**

**Regarding claim 4,** Aug et al and Jacques disclose the instant claimed invention except wherein said first connector half comprises an interface connector shield.

Peterson discloses an assembly wherein a first connector half comprises an interface connector shield (for example, see elements 14, Figs 2-5)

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included an interface connector shield as taught by

Peterson further cooperating with said midplane circuit board, midplane chassis shield and interface module as taught by Aug et al and Jacques for the purpose of providing a low inductance direct RF connection from the connector to the enclosure for grounding of the RF signals(see Peterson, Abstract)

**Regarding claim 5,** Aug et al and Jacques disclose the instant claimed invention except further comprising a gasket disposed between said interface connector shield and said interface module container.



Art Unit: 2841

Peterson discloses a gasket disposed between said interface connector shield and said interface module container(for example, see elements 14, Figs 2-5).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included an interface connector shield as taught by

Peterson further cooperating with said midplane circuit board, midplane chassis shield and interface module as taught by Aug et al and Jacques for the purpose of providing a low inductance direct RF connection from the connector to the enclosure for grounding of the RF signals(see Peterson, Abstract)

**Regarding claim 13**, Aug et al and Jacques disclose the instant claimed invention except wherein said first connector half comprises an interface connector shield.

Peterson discloses an assembly wherein a first connector half comprises an interface connector shield (for example, see elements 14, Figs 2-5)

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included an interface connector shield as taught by

Peterson further cooperating with said midplane circuit board, midplane chassis shield and interface module as taught by Aug et al and Jacques for the purpose of providing a low inductance direct RF connection from the connector to the enclosure for grounding of the RF signals(see Peterson, Abstract)

**Regarding claim 14**, Aug et al and Jacques disclose the instant claimed invention except further comprising a gasket disposed between said interface connector shield and said interface module container.

Art Unit: 2841

Peterson discloses a gasket disposed between said interface connector shield and said interface module container (for example, see elements 14, Figs 2-5).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included an interface connector shield as taught by

Peterson further cooperating with said midplane circuit board, midplane chassis shield and interface module as taught by Aug et al and Jacques for the purpose of providing a low inductance direct RF connection from the connector to the enclosure for grounding of the RF signals (see Peterson, Abstract)

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-8, 10-17, 19 and 20 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2841

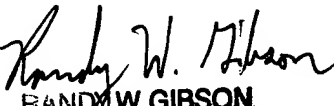
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dameon E. Levi whose telephone number is (571) 272-2105. The examiner can normally be reached on Mon.-Fri. (9:00 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dameon E Levi  
Examiner  
Art Unit 2841

DEL

  
RANDY W. GIBSON  
PRIMARY EXAMINER